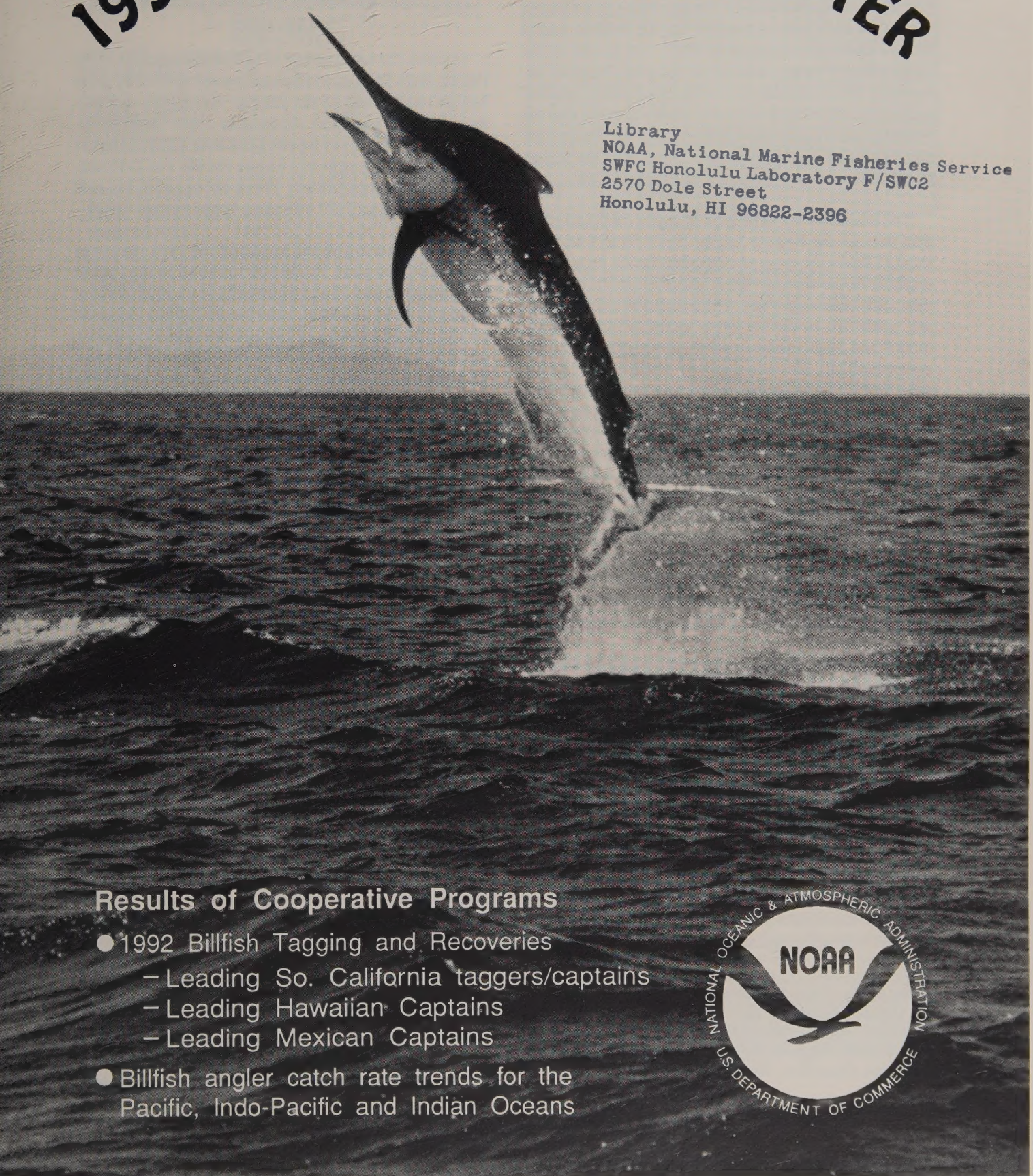
JUL 06 1993

1993 BILLFISH NEWSLETTER



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Results of Cooperative Programs

- 1992 Billfish Tagging and Recoveries
  - Leading So. California taggers/captains
  - Leading Hawaiian Captains
  - Leading Mexican Captains
- Billfish angler catch rate trends for the Pacific, Indo-Pacific and Indian Oceans

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INTRODUCTION

This Billfish Newsletter is an annual publication produced by the Southwest Fisheries Science Center as a service to the U.S. angling community. Its emphasis is on billfish angling results in the Pacific and Indian Oceans. Herein are the results of the 1991 Pacific Billfish Angler Survey conducted throughout 1992, and results of the Cooperative Marine Game Fish Tagging Program obtained in 1992. The data in this Newsletter are a result of cooperation by billfish anglers of many countries with the National Marine Fisheries Service, and we express our sincere appreciation to all anglers completing the Survey forms, and to those tagging and releasing billfish.

The reason for the collection of angler catch and effort data through the Billfish Angler Survey is to follow the trend of fishing in terms of catch rates for the recreational segment of the fishery. Other fisheries which are commercial in nature such as longline and drift gillnet fisheries, which are by far the larger takers of billfish (blue, striped and black marlin, sailfish, short-billed spearfish, and swordfish) are monitored by commercial landing statistics. The recreational fisheries, though not the major producer in terms of tonnage, are very important economically in many areas of the Pacific. Examples of this are the recreational billfish fishery about the southern tip of Baja California (Cabo San Lucas area) Mexico and around the Hawaiian Islands. Tourism is very important to the economy of these areas, and although many people who visit these areas may not fish for billfish, the thought that it is possible to catch a large billfish is often part of the attraction. If the recreational billfish catch rates decline to a low level, the image of these areas as a location to visit and possibly catch a billfish may be lessened.

Angler catch rates have shown year-to-year changes and trends, higher in some areas and lower in others. Declining catch rates for striped marlin about the tip of Baja California, Mexico were recorded in the 1970s and were apparently related to extensive commercial fisheries in the northeast Pacific. Reductions in commercial catches in the late 1970s in Mexican waters resulted in increased angler catch rates. In 1984, a cold water year following the 1982-1983 El Niño, the catch rate declined, but recovered in 1985. In Hawaii, a location of an intensive recreational billfish fishery for blue marlin and other species, there is great concern about the future of sustaining angler catch rates of past years due to the recent large increase in longline operations for tuna and billfish in the Hawaiian Island area. Angler catch rates are effective in monitoring the abundance of billfish available to the angling gear.

Cover Photo - Taken from an exceptionally sharp color photo by Elsbeth Pfenninger (photographer) and Dr. Hans H. Pfenninger (angler) of Männedorf, Switzerland. The photo is of a black marlin caught on August 3, 1991 off Islas Murciclagos, Papangiyo, Costa Rica. Weight 750-780 lbs.

TRENDS IN ANGLER CATCH RATES, 1969-1991

In 1991, the total number of billfish fishing days in the Pacific, Indo-Pacific, and Indian Oceans reported by those anglers responding to the Survey was 8,185, approximately 1/2 of the effort reported in 1990. Anglers responding to the Survey reported catching 4,694 billfish in the Pacific. The catch rate for the Pacific was 0.57 billfish/day or 1.7 days/billfish. This is about a 35% increase in catch rate from 1990 indicating better overall fishing.

Tables 1 and 2 give the results of the 1991 survey as submitted by anglers, by landing locations in the Pacific and Indian Oceans. These tables include location, number of angler days reported, number of billfish reported caught, CPUE in terms of fish per day and days fishing per fish, and major species reported. Table 1 is for locations having 100 angler days or more reported, and Table

Table 1. Results of 1991 Billfish Angler Survey - for areas with more than 100 angler days reported. Data in parentheses (-) are values recorded in 1990.

	ANGLER FISHING DAYS	BILLFISH PER FISHING DAY (CPUE)	MAJOR SPECIES
PACIFIC OCEAN			
S. California	2,107 (4,039)	0.06 (0.12)	SM (SM)
Baja California Mexico	1,952 (2,851)	0.46 (0.73)	SM (SM)
Mazatlan, Mexico	143 (79)	0.87 (0.94)	SF SF
Guatemala	232 (126)	1.37 (1.03)	SF (SF)
Costa Rica	288 (426)	2.33 (2.21)	SF (SF)
Hawaii, U.S.A.	1,892 (4,396)	0.38 (0.24)	BLM (BLM)
Tahiti French Polynesia	104 (226)	0.38 (0.22)	BLM (BLM)
Guam, U.S.A.	164 (470)	0.73 (0.32)	BLM (BLM)
New Zealand	275 (284)	0.92 (0.15)	SM (SM)
Australia	204 (306)	0.42 (0.5)	BKM (BKM)
INDIAN OCEAN			
Kenya	219 (1,347)	1.37 (0.53)	SF (SF)

Table 2. Results of 1991 Billfish Angler Survey - for areas with less than 100 angler days reported. Data in parenthesis (-) are values recorded in 1990.

	ANGLER FISHING DAYS	BILLFISH PER FISHING DAY (CPUE)	MAJOR SPECIES
PACIFIC OCEAN			
Kino Bay, Mexico	6 (13)	0.17 (0.38)	SF (SF)
Guamas, Mexico	73 (71)	0.22 (0.18)	SF (SF)
Puerto Vallarta, Mexico	0.68 (35)	22 (0.66)	SF (SF)
Manzanillo, Mexico	69 (95)	0.32 (0.88)	SF (SF)
Acapulco, Mexico	89 (133)	1.03 (1.20)	SF (SF)
Panama	64 (43)	2.69 (1.51)	SF (SF)
Christmas Island	1 (5)	- (-)	- (-)
Fiji	24 (-)	0.12 (-)	BLM (-)
Japan	3 (42)	- (0.20)	- (-)
INDO-PACIFIC			
Micronesia	1 (-)	- (-)	- (-)
New Guinea	90 (150)	0.14 (0.20)	BKM (SF)
Malaysia	23 (43)	0.04 (0.20)	BLM (BLM)
Thailand	8 (125)	0.12 (0.08)	SF (BLM)
Hong Kong (Pratas)	20 (33)	- (-)	- (-)
INDIAN OCEAN			
Mauritius	48 (82)	0.40 (0.26)	BLM (BLM)
Dubai, U.A.E.	4 (2)	- (-)	- (-)
Egypt	7 (-)	0.14 (-)	SF (-)

2 is for areas having less than 100 days reported. Information on 1990 data is given in parenthesis for comparison. In these tables, the codes are striped marlin (SM), blue marlin (BLM), black marlin (BKM), and sailfish (SF).

CPUE (catch-per-angler day) data by fishing area are shown graphically for striped marlin (Figure 1), blue marlin (Figure 2), black marlin (Figure 3), and sailfish (Figure 4).

Your response to this survey is needed to better determine the trend of angler catch rates which provides an indicator on the trends and health of the billfish stocks which support important recreational fisheries.

Enclosed you will find three copies of the Billfish Angler Survey for the 1992 Survey year - one for your use, and others to give to a billfish angler that has not completed the Survey form for 1992. If you would like additional 1992 Survey forms for distribution to other billfish anglers and to billfish club members, please write and we will send additional Survey forms to you.

COOPERATIVE MARINE GAME FISH TAGGING PROGRAM

TAGGING RESULTS 1992

Billfish tagging reports (tag report cards) received at the Southwest Fisheries Science Center for 1992 were tabulated and results indicate that in 1992, billfish anglers tagged and released 850 billfish, a decrease of 627 billfish from the number tagged in 1991 (1,477). Notable changes from 1991 included a tripling of releases off Southern California, a large increase in swordfish tagged off Hawaii, and a 50% reduction in releases off Baja California.

The distribution of number of billfish tagged by area from tag cards received during the calendar year 1992 is given in **Table 3.**

Other species which are occasionally tagged include: yellowfin tuna, bigeye tuna, dolphinfish, jack cravelle, amberjack, bonito, hammerhead shark, tiger shark, whitetip shark, mako shark, blue shark, thresher shark, dusky shark and basking shark. The use of billfish tags for "other" species is not encouraged.

We would like to list all names of anglers and charterboat captains that have tagged and released billfish in 1992. The list, however, would be long and in excess of space available. This year we have listed the names of captains in the Hawaii, Mexico and Southern California areas that have tagged and released a substantial number of billfish. We emphasize that although your name as a tagger or captain might not be listed, we nonetheless appreciate your efforts in contributing to the research program. In Table 4, the leading captains tagging billfish in the Hawaiian Islands, Mexico and Southern California are listed. Table 5 lists the leading anglers tagging billfish off southern California.

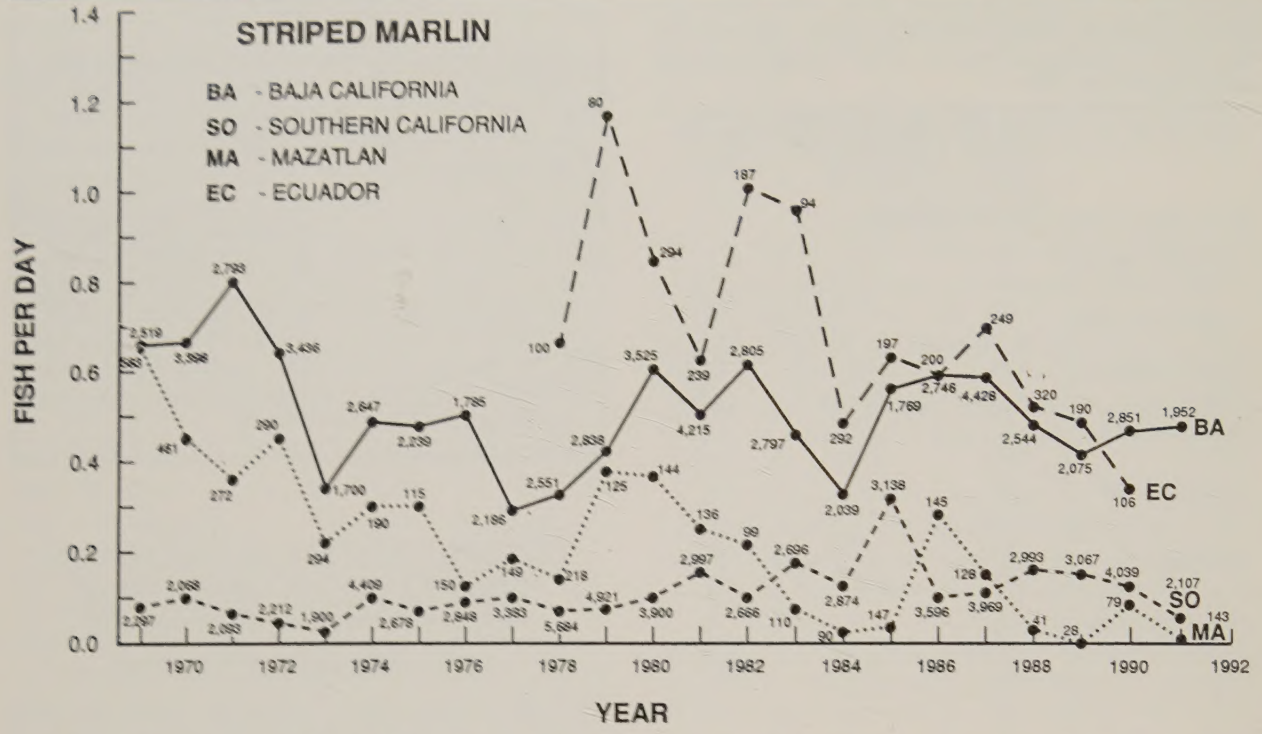

Figure 1. CPUE (number of fish/angler day) for striped marlin and number of angler days reported fishing in important catch areas, 1969-1991.

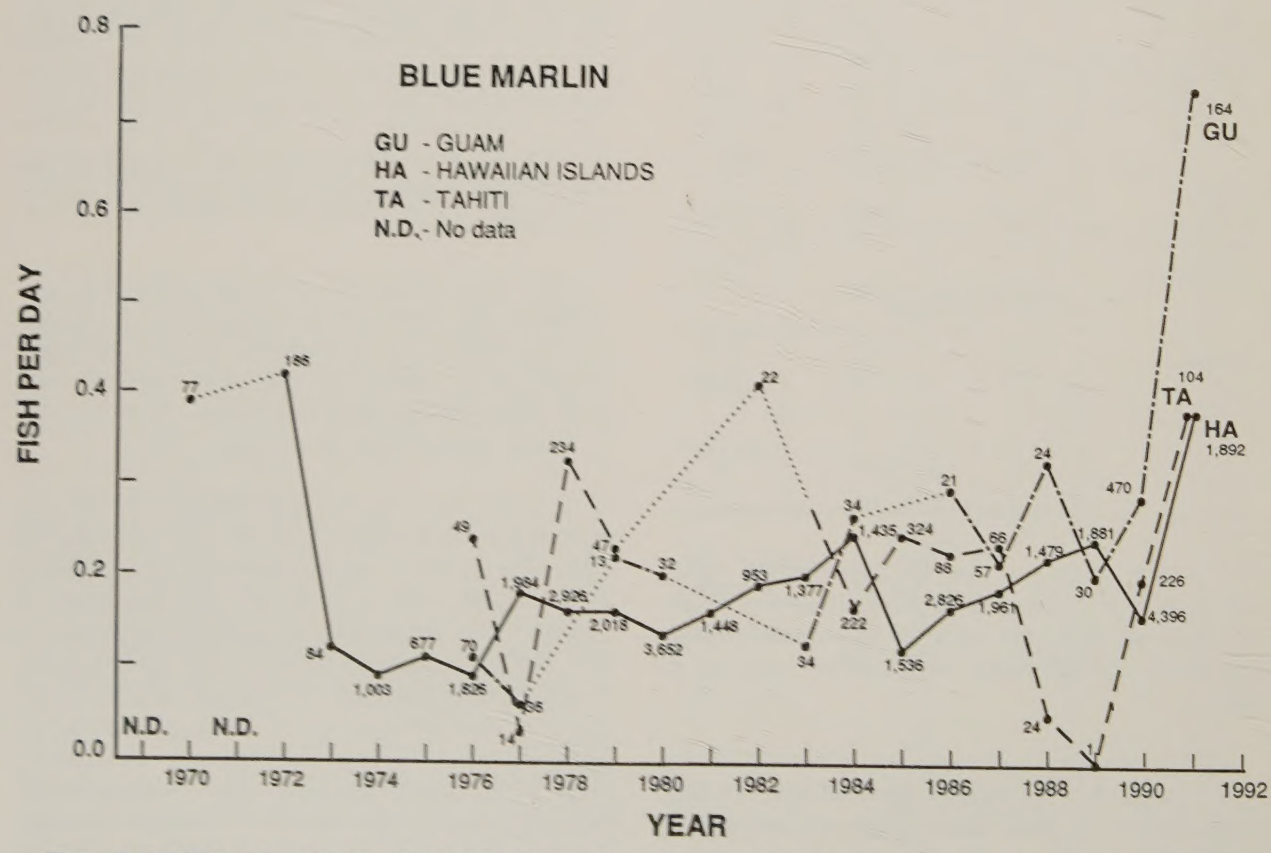

Figure 2. CPUE (number of fish/angler day) for blue marlin and number of angler days reported fishing in important catch areas, 1969-1991.

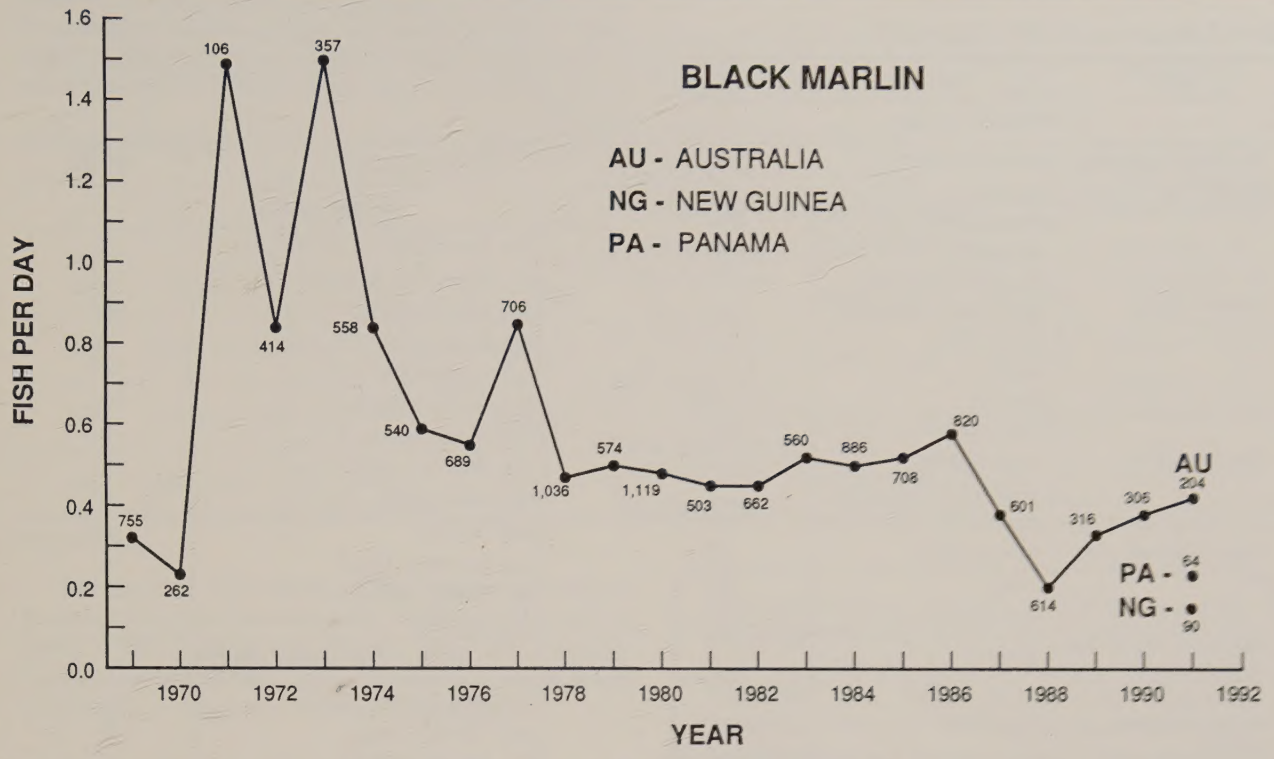

Figure 3. CPUE (number of fish/angler day) for black marlin and number of angler days reported for fishing in 1991.

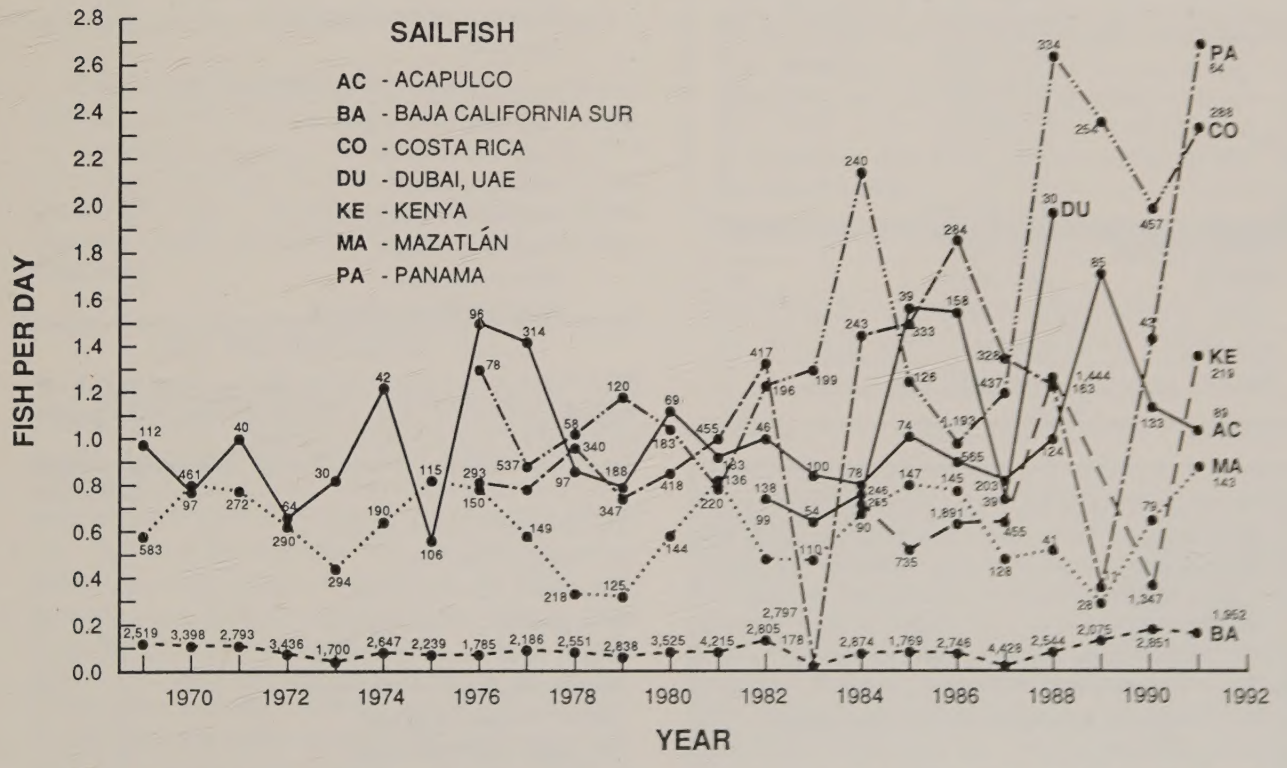

Figure 4. CPUE (number of fish/angler day) for sailfish and number of angler days reported for fishing in important catch areas, 1969-1991.

Table 3. Summary of billfish tagged - 1991

Area	Species	Total
PACIFIC OCEAN		
Southern California, U.S.A.	Striped marlin	149
	Marlin	31
Hawaii, U.S.A.	Blue Marlin	245
	Striped Marlin	108
	Broadbill Swordfish	31
	Short-Billed Spearfish	31
	Black Marlin	7
	Marlin	6
	Sailfish	2
Guam, U.S.A.	Blue Marlin	33
	Striped Marlin	1
	Short-Billed Spearfish	1
Baja California, Mexico	Blue Marlin	51
	Striped Marlin	40
	Sailfish	22
	Black Marlin	2
Mazatlan/Puerto Vallarta, Mexico	Sailfish	1
Manzanillo/Acapulco, Mexico	Blue Marlin	1
Costa Rica	Blue Marlin	21
	Striped Marlin	4
	Sailfish	2
Panama	Sailfish	8
	Blue Marlin	7
	Black Marlin	4
	Striped Marlin	4
Fiji	Blue Marlin	9
	Black Marlin	2
	Sailfish	1
INDO-PACIFIC		
French Polynesia	Blue Marlin	1
Malaysia	Black Marlin	10
INDIAN OCEAN		
Kenya	Sailfish	13
Mauritius	Blue Marlin	2
TOTAL		851

If you fish in southern California waters, you are encouraged to tag striped marlin and swordfish in 1993; tagging equipment (tag applicator tips and tags) is again available to boat owners at the following locations:

- **San Diego Marlin Club, San Diego, California**
- **Balboa Angling Club, Newport Beach, California**
- **Catalina Seafood, end of Avalon Pier, Avalon, Catalina Island, California (Rose Cadman).**

Table 4. Names of captains tagging substantial numbers of billfish, and the number of billfish tagged and released. Taken from tag report cards received in La Jolla, California in calendar year 1992.

CAPTAIN NAME	TOTAL
HAWAII, U.S.A.	
Capt. Rob Purdy	30
Capt. Gene Vanderhoek	26
Capt. Kelly Everette	22
Capt. Doug Barna	19
Capt. Freddy Rice	17
Capt. Randy Orkisch	11
Capt. Randy Parker	9
Capt. William L. Dorr	8
Capt. Mark Shultz	8
Capt. Jeff Fay	8
Capt. Steven D. Kaiser	6
Capt. Randy Lawrence	6
Capt. Bill Hoey	6
BAJA CALIFORNIA, MEXICO	
Capt. Jose Antonio Nunez	7
Capt. Gilberto Castro	6
Capt. Tony Nungaray	4
Capt. Hernan Cosio	3
Capt. Vicente Ortiz	2
Capt. Martin V. Fiol	2
Capt. Martin Verdugo Collins	2
Capt. Jose	2
SOUTHERN CALIFORNIA, U.S.A.	
Capt. Michele B. Kogler	15
Capt. Stan Ecklund	14
Capt. Gary Jasper	10
Capt. Jerry R. Austin	8
Capt. Doug Carson	8
Capt. Joe Houck	6
Capt. Kendall W. Knight, Jr.	5

Table 5. Names of anglers tagging three or more billfish off southern California in 1992. Information taken from tag cards received in La Jolla in calendar year 1992.

ANGLER NAME	TOTAL
Stan Ecklund, Redondo Beach	17
Karl Kogler, Costa Mesa	15
Lynn Jasper, Bermuda Dunes	10
Dave Denholm, Corona Del Mar	6
Jerry R. Austin, Huntington Beach	6
Jim Madden, Rancho Palos Verde	5
Connie McIntyre, Santa Ana	4
Gary Jasper, Bermuda Dunes	4
Linda Houck, San Clemente	4
Mark M. Wisch, Huntington Beach	3
Ben Secrest, Westminster	3

Table 6. Billfish tag recoveries reported to the SWFSC in 1992.

RECOVERY NO.	SPECIES	TAGGER / CAPTAIN	RELEASE DATE	RELEASE LOCATION	RECOVERED BY	RECOV. DATE	RECOVERY LOCATION
548	Blue M.*	Robert O'Laughlin / Capt. Mike Holz	08/05/91	19°04'N 156°03'W Keahole Pt., HI	Kikuji Ito (Longliner)	11/15/91	11°05'S 131°42'W E. of Marquesas Isl.
549	Striped M.	Larry Quigley / Capt. Jerry Allen	11/08/91	19°30'N 155°52'W Kona, HI	Capt. Tongwha Im (Longliner)	12/06/91	21°47'N 153°20'W NE of Hilo, HI
550	Black M.	Fred B. Hall / Capt. Hudson	12/10/88	19°30'N 155°52'W Kona, HI	Greg Henry	02/25/92	19°30'N 155°52'W Kona, HI
552	Striped M.	Hugh Wright / Capt. Ron Francis	09/12/92	33°27'N 118°44'W Catalina Isl., CA	Richard Triggs	09/12/92	33°29'N 118°36'W Catalina Isl., CA
553	Blue M.	Yves Collenot / Capt. Jack Prettyman	08/07/92	19°36'N 156°02'W Keauhou Bay, Kona	Norman Dubbs	08/10/92	19°34'N 155°15'W Hilo, HI
555	Striped M.	John A. Dragos / William MacCorkell	10/25/91	32°42'N 117°44'W San Diego, CA	Tomoyuki Itoh (Longliner)	03/14/92	15°52'S 79°55'W Lima, Peru

*M.= Marlin

The tagging of swordfish continues to be encouraged in areas where they are commonly observed at the surface (such as off southern California). Also, U.S. longline vessels operating in the central Pacific for swordfish are encouraged to tag and release small swordfish.

We are pleased to advise marine recreational billfish anglers that billfish tagging equipment is available on the island of Guam by contacting Ms. Gretchen R. Grimm, Fishery Biologist with the Government of Guam, Division of Aquatic and Wildlife Resources, Agana, Guam.

In the Hawaiian Island area, billfish tags and applicator tips can be obtained by contacting the Hawaiian International Billfish Association, Honolulu, HI (808) 836-0974 or the National Marine Fisheries Service Laboratory, also in Honolulu, Hawaii. Tagging equipment is also available from the Southwest Fisheries Science Center, La Jolla, California.

TAG RECOVERIES - 1992

A total of 6 tagged billfish was reported in 1992 to the SWFSC as being recovered in the Pacific Ocean (2 blue marlin, 3 striped marlin and 1 black marlin). This is a significant decrease from the 23 billfish recoveries reported for 1991, but similar to the level reported in 1990 (9). Two of these recoveries were long distance recaptures. One striped marlin travelled from San Diego, California to Lima, Peru, and the other, a blue marlin travelled from Hawaii to the Marquesas Islands. Table 6 lists the billfish recoveries reported to the National Marine Fisheries Service, La Jolla, CA during the calendar year 1992. It is possible that additional tagged fish have been recovered, but have not been reported. Any information on recoveries that have not been reported is appreciated.

Your supplying tagging information (tag card) for releases is greatly appreciated. On each tag report card to which the tag is attached, and which is used by taggers, there is a statement "tagging is of no value unless tag card is returned." This admonishment is being disregarded by a number of anglers. Anglers are reminded: IF YOU TAG A FISH, COMPLETE AND SUBMIT THE TAG REPORT CARD. If your inclination is not to submit the tag report card, don't tag fish. Missing tag report cards costs the tagging program lost time and money searching files and records for nonexistent information, and produces no useful scientific information.

INFORMATION FOR RECEIVING THIS NEWSLETTER AND BILLFISH ANGLER SURVEY FORM

This Newsletter is sent to individuals who have **within the past year tagged and released billfish, or who have submitted the Billfish Angler Survey form during the past year**. U.S. Government regulations require us to revise our mailing list each year, and to delete names that do not fall under the above categories. However, if you did not fish for billfish in 1991, but would like to continue to receive the Newsletter, complete the Billfish Angler Survey by including your name and address; write "*no billfish fishing*", and return the card. Your name will be retained on the mailing list. Response to the Billfish Angler Survey is voluntary.

Your cooperation in the annual Billfish Angler Survey and the Cooperative Marine Game Fish Tagging Program is appreciated.

James L. Squire, Jr. Retires

For many, James Squire and the *Billfish Newsletter* are synonymous. Jim, a renowned expert on billfish, retired from the National Marine Fisheries Service after 40 plus years of productive dedicated service. He conducted the Angler Survey and the Marine Game Fish Tagging Program since the late 1960's. The results have been regularly reported in scientific publications and here, in the *Billfish Newsletter*. We wish Jim the best, in his retirement and will continue in the tradition of reporting results of the Angler Survey and Tagging Program.

The Southwest Fisheries Science Center is looking for photographs of billfish for the cover of next years Billfish Newsletter. There are many "great" photos waiting to be discovered in your slide or print files. Color or black & white photos of billfish and/or fishing activities are appropriate. We would appreciate your sharing these photos with us and will give you full credit in the 1994 issue. A billfish baseball cap and trophy will be awarded to the winning photographer.

David B. Holts, Fishery Biologist
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La Jolla, CA 92038